

What is claimed is:

1. A radio network system having a radio base station connected to a communication line and utilizing radio as data transfer medium and a plurality of radio mobile terminals connected via the radio base station to the communication line and utilizing the radio, wherein:

the radio base station includes means for managing the radio mobile terminal as to whether the terminal is in a power-saving mode for saving power by intermittent power reception and a normal mode with power received at all times on the basis of a predetermined protocol, means for receiving and discriminating broadcast packets addressed to the radio mobile terminals operating in the power-saving mode and, when the broadcast packet concerning a physical address inquiry is found, responding to the same broadcast packet as an agent for the pertinent radio mobile terminal to solve the physical address inquiry, and means for reporting the reception of the physical address inquiry to the radio mobile terminal operating in the power-saving mode to urge the pertinent radio mobile terminal to switch the operation mode to the normal mode.

2. A radio network system having a radio base station connected via an external control unit to a communication line and utilizing radio as transfer medium and a plurality of radio mobile terminals connected via the radio base station to the communication line and utilizing the radio, wherein:

the external control unit includes means for managing the radio mobile terminal as to whether the terminal is in a power-saving mode for saving power by intermittent power reception and a normal mode with power received at all times on the basis of a predetermined protocol, means for receiving and discriminating broadcast packets addressed to the radio mobile terminals operating in the power-saving mode and, when the broadcast packet concerning a physical address inquiry is found, responding to the same broadcast packet as an agent for the pertinent radio mobile terminal to solve the physical address inquiry, and means for reporting the reception of the physical address inquiry to the radio mobile terminal operating in the power-saving mode to urge the pertinent radio mobile terminal to switch the operation mode to the normal mode.

3. The radio network system according to claim 2, wherein the solving means for the physical address inquiry responds to the broadcast packet as an agent for the pertinent radio mobile terminal without causing the same broadcast packet to be held in the own station.

4. The radio network system according to one of claims 1 and 2, wherein the solving means for the physical address inquiry responds to the broadcast packet as an agent for the pertinent radio mobile terminal without sending out the same broadcast packet to the radio transfer line side.

5. A radio base station connecting a plurality of radiomobile terminals to a communication line by utilizing radio as data transfer medium comprising:

means for managing the radio mobile terminal as to whether the terminal is in a power-saving mode for saving power by intermittent power reception and a normal mode with power received at all times on the basis of a predetermined protocol;

means for receiving and discriminating broadcast packets addressed to the radio mobile terminals operating in the power-saving mode and, when the broadcast packet concerning a physical address inquiry is found, responding to the same broadcast packet as an agent for the pertinent radiomobile terminal to solve the physical address inquiry; and

means for reporting the reception of the physical address inquiry to the radio mobile terminal operating in the power-saving mode to urge the pertinent radio mobile terminal to switch the operation mode to the normal mode.

6. The radio base station according to claim 5, wherein the solving means for the physical address inquiry responds to the broadcast packet as an agent for the pertinent radio mobile terminal without causing the same broadcast packet to be held in the own station.

7. The radio base station according to claim 5,

wherein the solving means for the physical address inquiry responds to the broadcast packet as an agent for the pertinent radio mobile terminal without sending out the same broadcast packet to the radio transfer line side.

8. A radio mobile terminal agent processing method for a radio network system having a radio base station connected to a communication line and utilizing radio as data transfer medium and a plurality of radio mobile terminal connected via the radio base station to the communication line and utilizing the radio, wherein:

the radio base station side executes a process of managing the radio mobile terminal as to whether the terminal is in a power-saving mode for saving power by intermittent power reception and a normal mode with power received at all times on the basis of a predetermined protocol, a process of receiving and discriminating broadcast packets addressed to the radio mobile terminals operating in the power-saving mode and, when the broadcast packet concerning a physical address inquiry is found, responding to the same broadcast packet as an agent for the pertinent radio mobile terminal to solve the physical address inquiry, and a process of reporting the reception of the physical address inquiry to the radio mobile terminal operating in the power-saving mode to urge the pertinent radio mobile terminal to switch the operation mode to the normal mode.

9. A radio mobile terminal agent processing method

for a radio network system having a radio base station connected via an external control unit to a communication line and utilizing radio to a transfer medium and a plurality of radio mobile terminals connected via the radio base station to the communication line and utilizing radio, wherein:

the external control unit side executes a process of managing the radio mobile terminal as to whether the terminal is in a power-saving mode for saving power by intermittent power reception and a normal mode with power received at all times on the basis of a predetermined protocol, a process of receiving and discriminating broadcast packets addressed to the radio mobile terminals operating in the power-saving mode and, when the broadcast packet concerning a physical address inquiry is found, responding to the same broadcast packet as an agent for the pertinent radio mobile terminal to solve the physical address inquiry, and a process of reporting the reception of the physical address inquiry to the radio mobile terminal operating in the power-saving mode to urge the pertinent radio mobile terminal to switch the operation mode to the normal mode.

10. The radio mobile terminal agent processing method according to one of claims 8 and 9, wherein the solving process of the physical address inquiry responds to the broadcast packet as an agent for the pertinent radio mobile terminal without causing the same broadcast packet to be

held in the own station.

11. The radio mobile terminal agent processing method according to one of claims 8 and 9, wherein the solving process of the physical address inquiry responds to the broadcast packet as an agent for the pertinent radio mobile terminal without sending out the same broadcast packet to the radio transfer line side.